

The Far Eastern species of *Thinobius* Kiesenwetter, 1844 (Coleoptera: Staphylinidae, Oxytelinae) lacking female modified genital appendage

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The Far Eastern species of *Thinobius* Kiesenwetter, 1844 (Coleoptera: Staphylinidae, Oxytelinae) lacking female modified genital appendage. -

The Far Eastern members of *Thinobius* Kiesenwetter, 1844 without female modified genital appendage are reviewed. Besides the previously described Japanese (*T. ootsukai* Naomi, 1995 and *T. yabakeinis* Naomi, 1995) and Russian (*T. zerchei* Gildenkov, 1998) species, the genus is reported from Korea for the first time, with three species described here as new: *T. injae* sp. nov. (Injae-gun district), *T. schillhammeri* sp. nov. (Seorak-san), *T. paraminor* sp. nov. (Injae-gun district), belonging to three different species groups, respectively. Another taxon, *T. shavrini* sp. nov. is described from the USA (Alaska) and Russia (Chita area) and is believed to have a distribution connecting these locations. *T. delicatulus* is reported from Romania, while by the correction of an earlier record *T. hummleri* is mentioned from Mongolia. The male genital characters are illustrated for all species by line drawings, colour plates show the habitus of the new taxa, SEM images depict external morphology of all species.

Keywords: East Palaearctic - Nearctic - Romania - *Thinobius* - taxonomy - new species.

INTRODUCTION

During a collecting trip in Korea as a cooperative effort with the National Institute of Biological Resources, Incheon, Korea (NIBR) in September 2010 the author obtained some material of *Thinobius* Kiesenwetter, 1844, a genus not so far reported from Korea; all from the northeastern mountainous areas of South Korea (Gangwon-do) – three of which are described here as new. The East Palaearctic *Thinobius* fauna is poorly studied, although it seems that the genus is widely distributed there. The species can be collected with the flotation method which is not very frequently used by non-specialist workers and collectors. This somewhat explains the poor record of *Thinobius* from this region.

South Korea is known to be an area with very high human populations. One would expect the rivers to be in poor condition and having no natural habitats at all. Currently this is one of the greatest nature protection problems in Central Europe where almost all the rivers have been regulated and the banks built up. As a consequence the species of *Thinobius*, specialized to gravelly-sandy riverbanks with an

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interrupted flow of natural (mineral and organic) debris has become near extinct. Many taxa were not collected in the last 100 years and specimens of this group, though once common, are now rarely encountered. Yet, in spite of low expectations it was surprisingly easy to find a natural riverbank with several *Thinobius* species, near the city Inje (In-jae in the older transliteration) at the Naerincheon river. As a general trend, the lower the altitude, the higher the number of *Thinobius* species is – but also the greater the habitat destruction is, therefore it is much harder to find natural, gravelly-sandy banks. Mountain streams (like the Osaekcheon stream) have fewer species but are more often found in good condition, the best habitats are sandy-gravelly spots between larger rocks or even under stones.

The species of *Thinobius* can be divided according to the presence or absence of a female modified genital appendage. The section having this apparently derived, unique structure is often referred to as *Thinobius* s.str. in the literature, for including the type species of the genus. The section lacking it has the female terminalia in the primitive condition with coxites and styli, paired plates. Further subgeneric names exist for groups within this latter unit, and while the system appears to be reasonably applicable for the East Palaearctic fauna, the author is not convinced that this division works for other (especially tropical) faunas. This is the main reason for which the use of the subgeneric names is ill-advised until the worldwide diversity is better known. The *T. delicatulus* group (Makranczy, 2009) should be separated because of the unique formation of the asymmetrical aedeagus and also the spike-like, asymmetrical sternite IX – this group is dealt with in some literature as the subgenus *Oedarthrothinophilus* Scheerpeltz, 1959. A rather well-established group exists with a post-occipital groove separating the neck from the rest of the head – the *T. linearis* group, also known as *Thiphonilus* Tottenham, 1939 was subject to some recent revisional studies (Makranczy & Schülke, 2001; Makranczy, 2014). The remaining species are in fact a loose assemblage of taxa that are not particularly closely related, essentially just what is left when other species groups are formed; these all have symmetrical aedeagi and lacking a post-occipital groove. This group currently stands under the subgeneric name *Platyderothinophilus* Scheerpeltz, 1959, but the *T. major* group is preferred herein.

MATERIAL AND METHODS

Transliteration of Korean placenames is a particularly difficult task. Romanisation rules have changed significantly after 2000, but one can still see placenames in several different versions. For names of major places, the 2010 edition of the Lonely Planet travel book (as the possible most recent printed source) was followed, smaller entities were transliterated directly from Korean language maps with the help of locals.

The label data of the types for previously described taxa are reproduced literally between “ ”, the symbol “\” is a separator between each individual label, while “;” means line breaks. Text within brackets [] is explanatory and was not included in the original labels.

Abbreviations of collections whose materials were used in the present study are as follows:

- CMIC Chiba Natural History Museum and Institute, Chiba, Japan (A. Saito, S-I. Naomi)
 CNCI Canadian National Collection of Insects, Ottawa, ON, Canada (A. Davies)
 HNHM Hungarian Natural History Museum, Budapest, Hungary
 KUEC The Kyushu University Museum, Fukuoka, Japan (M. Maruyama)
 MHNG Muséum d'histoire naturelle, Genève, Switzerland (G. Cuccodoro)
 NIBR National Institute of Biological Resources, Incheon, Korea
 NHMW Naturhistorisches Museum Wien, Wien, Austria (H. Schillhammer)
 SDEI Senckenberg Deutsches Entomologisches Institut, Müncheberg, Germany (L. Behne, S. Blank)
 coll. Schülke = private collection of Michael Schülke, Berlin, Germany
 coll. Shavrin = private collection of Alexey Shavrin, Daugavpils, Latvia

Abbreviations for the measurements: HW = head width with eyes; TW = head width at temples; PW = maximum width of pronotum; SW = approximate width of shoulders; AW = maximum width of abdomen; HL = head length (in middle-line, from front margin of clypeus to the beginning of neck); EL = length of eye; TL = length of temple; PL = length of pronotum in the middle-line; SL = length of elytra from shoulder; SC = length of elytra from hind apex of scutellum; FB = forebody length (combined length of head, pronotum and elytra); BL = approximate body length. All measured from dorsal view.

For descriptions and measurements a Leica MZ 12.5 stereoscopic microscope was used. For the line drawings permanent preparations were made in Euparal mounting medium on plastic cards pinned with the specimens. Techniques are described in detail in Makranczy (2006). Drawing was done with a Jenalab (Carl Zeiss, Jena) compound microscope and drawing tube (camera lucida). SEM images were taken of uncoated specimens with a Hitachi S-2600 N scanning electron microscope. Colour habitus photographs were made with a Leica DFC 490 camera attached to a Leica MZ16 stereoscopic microscope and layers montaged by AutoMontage software, then treated in Photoshop.

TAXONOMY

Thinobius injae sp. nov.

Figs 1, 9-10, 23, 31, 43, 51-52, 73-77

TYPE MATERIAL: HNHM, holotype (♂); "S-KOREA, Gangwon-do, Injae-gun district, 2 km E Inje, Naerincheon river, sand at W end of bridge, 200 m, gravel/sand border at water, flotation (2B), 38°03'59"N, 128°11'27"E; 08.IX.2010; [leg.] Makranczy & al".

PARATYPES (2): MHNG 1, NIBR 1 ♀; same data as holotype.

DESCRIPTION: Habitus as in Fig. 1. Measurements (n=3): HW = 0.23 (0.22-0.25); TW = 0.22 (0.21-0.24); PW = 0.23 (0.22-0.26); SW = 0.25 (0.23-0.28); AW = 0.28 (0.25-0.31); HL = 0.21 (0.20-0.22); EL = 0.08 (0.075-0.08); TL = 0.07 (0.065-0.07); PL = 0.19 (0.18-0.21); SL = 0.36 (0.335-0.39); SC = 0.32 (0.30-0.36); FB = 0.76 (0.71-0.85); BL = 1.43 (1.30-1.53) mm. BODY rather conspicuously bicoloured. Head and pronotum slightly reddish dark brown, abdomen blackish dark brown, elytra medium to light brown but scutellar area broadly dark brown. Legs, mouthparts and



FIGS 1-4

(1-2) Habitus of new *Thinobius* species. *T. injae* sp. n. (1), *T. paraminor* sp. n. (2). (3-4) Type locality of both *P. injae* sp. n. and *T. paraminor* sp. n.; wide view (3), close-up (4).



FIGS 5-8

(5-6) Habitus of new *Thinobius* species. *T. schillhammeri* sp. n. (5), *T. shavrini* sp. n. (6). (7-8) Habitats. *T. schillhammeri* sp. n., type locality (7), *T. shavrini* sp. n., paratype locality in Siberia (8).

first two antennomeres medium to light brown, antennal articles 3-11 dark brown. All main body parts with coriaceous (or rather imbricate on abdomen and some other parts, like sides of head) microsculpture intermixed with fine and dense punctation, making body moderately lustrous; in contrast, clypeus almost unsculptured. Punctation strongest on head, on pronotum very fine, as also on elytra, indistinct on abdomen, latter being strongly microsculptured. Tergite VII not more lustrous than preceding tergites, but on the mostly unexposed tergite VIII microsculpture is faded, so shinier. Pubescence on forebody depressed, very fine, short; on abdomen even finer but somewhat longer setae plus a row of stronger and longer setae on apices of tergites. Abdominal sides and apex with a few darker, much longer and stronger, erect bristles. Strong dark bristle on outer side of supraantennal prominence at anterior border of eye and on posterior edge of vertex adjacent to temples, similar ones right behind anterior pronotal corner and another before posterior corner. Direction of setation on sides of head anterior, on disc mostly medial, but posterior in midline and near hind edge; on pronotal sides medial, most of disc antero-medial, midline anterior, posterior edge lateral. Posterior edge of vertex as well as middle of anterior pronotal edge with conspicuously long setae. Setation on abdomen posteriorly directed, but slightly postero-lateral on elytra. Antennae, legs and mouthparts with very short, not conspicuous setation, except for the stiff, darker bristle slightly distad from middle of each tibia and ones near apices of femora. Elytra with three long, stiff and erect lateral setae, posterior one slightly closer to middle.

Head (Fig. 23) 1.15x wider than long, temples almost straight, with only a gentle curve anteriorly, but narrowly rounded on posterior part. Vertex rather flat, supraantennal prominences strongly developed, anterior edges rather shiny. Anterior border of neck not marked with groove, only by change of microsculpture. Frontoclypeal suture appearing as fine, often shinier groove and dark line connecting supraantennal tubercles, similarly darker spots situated at both sides on middle of vertex. ANTENNAE (Fig. 51) with antennomeres 4-8 moderately to strongly transverse, as opposed to terminal antennomeres (Fig. 52) with article 9 as long as broad and 10 elongate.

Pronotum (Fig. 9) slightly transverse, 1.30x wider than long, not appearing wider than head, with narrowly rounded anterior and rather narrowly rounded posterior corners. Anterior margin almost straight, as also sides (parallel) with slight concavity behind middle; posterior margin strongly but not evenly arched, almost straight in outer thirds, giving pronotum a faint pentagonal feel. No consistent and characteristic impressions, but both sides of anterior half of disc gently impressed as well as sides behind middle. Pronotal marginal bead visible on posterior margin. Scutellum large, setose and very strongly sculptured (Fig. 31). ELYTRA (Fig. 10) long, one elytron more than twice as long as broad, gently curved in cross-section, parallel-sided (very little dilation posteriorly). Shoulders moderately developed. Along suture with thin marginal bead, but broader right behind scutellum. Sutural corners broadly rounded. LEGS of medium length, tarsal lobes thin but relatively long (but not reaching apex of last tarsomere), tibiae strongly fusiform, appear a lot wider in middle than at ends.

Abdomen (Fig. 43) very weakly fusiform, sides more or less straight and parallel; widest at posterior 1/3, very slightly less wide than elytra at broadest point. Posterior margin of tergite VII with moderately broad palisade fringe.

PRIMARY AND SECONDARY SEXUAL FEATURES: Sexes not appearing different in regular dorsal view. Posterior corners of tergite VIII (similar in both sexes) gently protruding, posterior edge otherwise straight. Male sternite VIII as in Fig. 73, tergite IX as in Fig. 74, sternite IX as in Fig. 75. Aedeagus as in Figs 76-77.

ETYMOLOGY: The species is named after the city near the type locality, deliberately in the older spelling (noun in apposition).

REMARKS: The male holotype has slightly larger body size than the two paratypes. However, with only three specimens known this does not allow for conclusions on possible sexual differences. This taxon belongs in the *T. delicatulus* group. Its aedeagal structures are very similar to the sibling species *T. delicatulus* Kraatz, 1857 and *T. hummleri* Bernhauer, 1940. During the checking of *Thinobius* taxon names described from the East Palaearctic, it was discovered that the specimens Smetana identified as *T. delicatulus* from Mongolia (Smetana, 1975) are in fact *T. hummleri*. The proper distinguishing features were not known at the time. Comparison of the new species to the European relatives also revealed that a pair of specimens with conspicuously transversal antennomeres (data: Romania, jud. Maramureş, Valea Vişeuului, [river] Vişeu, 1.5 km S Tisa confluence, W bank, sandy shoal N hanging bridge, 360 m, from gravelly spots in sandbank, after high water, flotation (305), 47°54'04"N, 24°09'33"E, 11.VI.2007, [leg.] Gy. Makranczy) actually belong to *T. delicatulus*, which confirms its occurrence in Romania. Shapes of individual antennomeres turn out to be rather variable in this genus, making this character difficult to use in diagnosis.

DISTRIBUTION: The species is known only from the type locality (Figs 3-4).

BIONOMICS: Seems to be associated with lower rivers, more open, sunny gravelbanks.

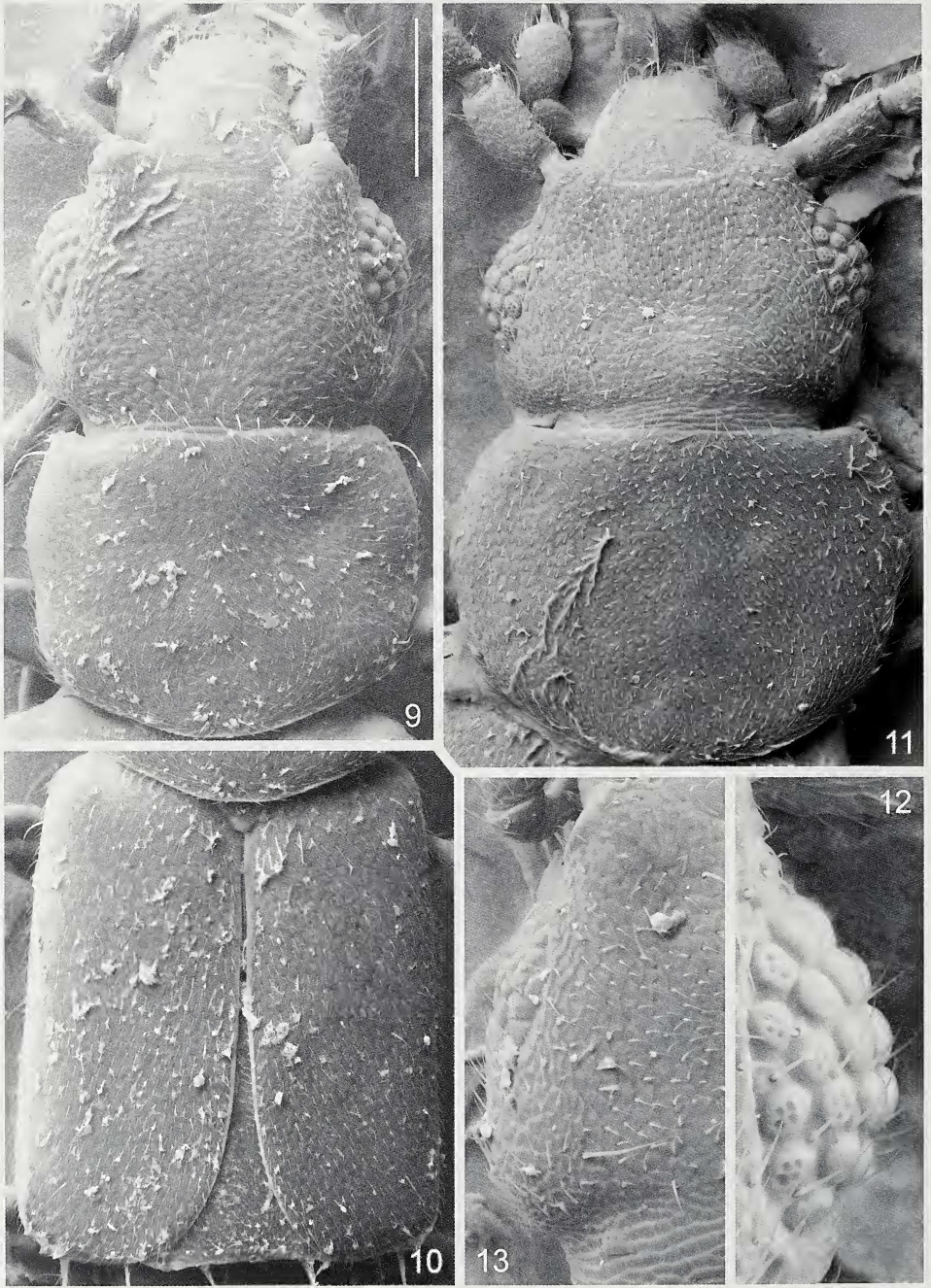
Thinobius ootsukai Naomi, 1995

Figs 11-12, 24, 37-39, 64-66, 81

Thinobius (Platyderothinophilus) ootsukai Naomi, 1995: 22. – Herman, 2001: 1754.

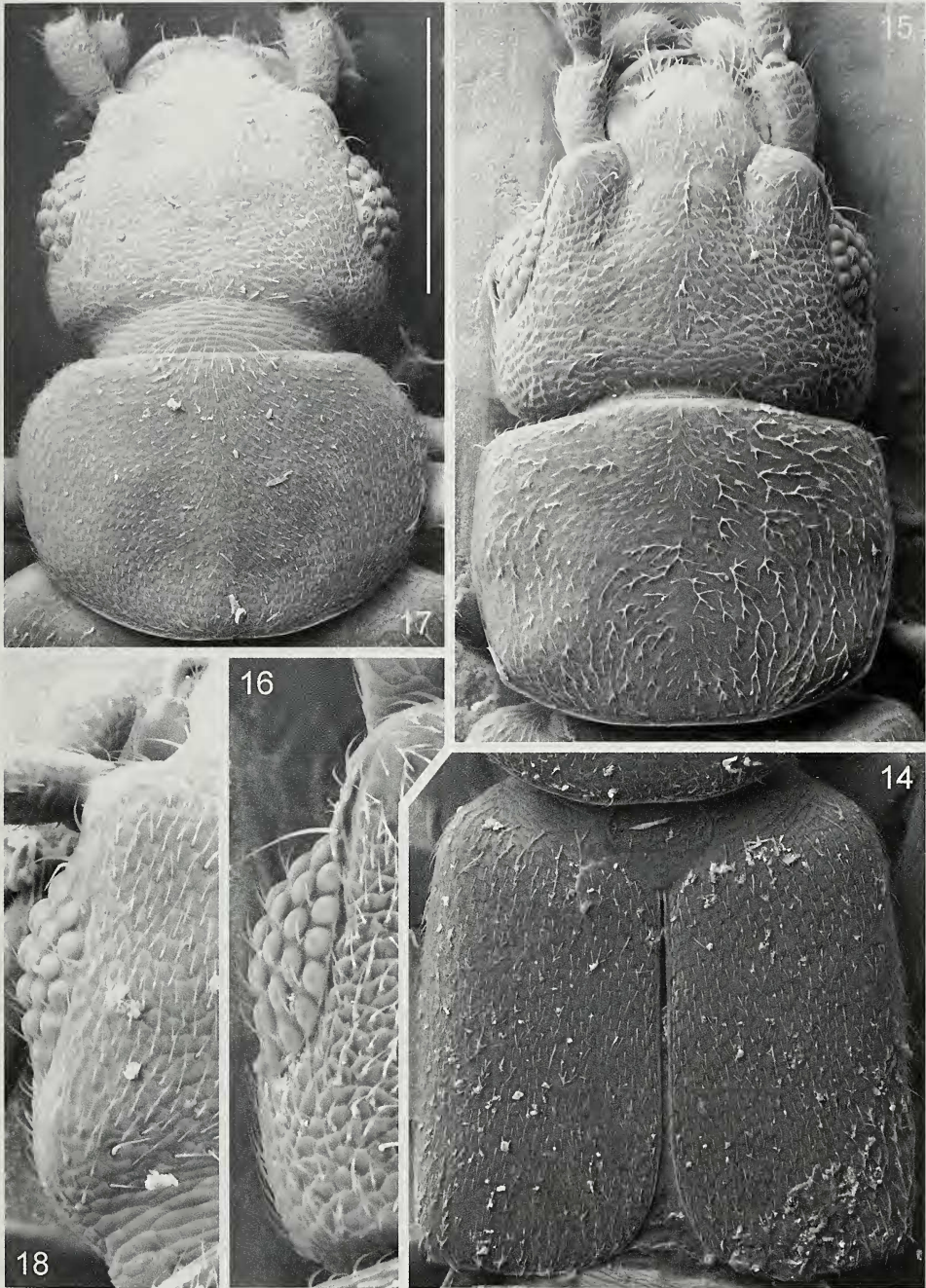
TYPE MATERIAL EXAMINED: CMIC, holotype (♂); “[JAPAN: Honshu,] Chiba Pref; Mt. Kiyosumi; 27.V.1990; I. Ootsuka col. \ Holotype; *Thinobius ootsukai*; Naomi 1995. \ CBM - ZI; 33876 \ Holotypus; *Thinobius*; *ootsukai* Naomi; ver. Makranczy, 2011 \ *Thinobius*; *ootsukai* Naomi; det. Makranczy, 2011”.

REDESCRIPTION: Measurements (n=1): HW = 0.33; TW = 0.31; PW = 0.38; SW = 0.44; AW = 0.46; HL = 0.27; EL = 0.11; TL = 0.075; PL = 0.295; SL = 0.54; SC = 0.50; FB = 1.08; BL = 1.93 mm. BODY unicoloured. Head dark brown with only supraantennal tubercles appearing lighter. Pronotum dark brown, elytra somewhat lighter (but unicolorous) dark brown. Abdomen dark brown to blackish dark brown. Mouthparts and antennae slightly reddish dark brown, legs medium to dark brown, tarsi somewhat lighter. All main body parts with coriaceous microsculpture intermixed with fine and dense punctation, making body moderately lustrous. Punctation on head (especially anterior half of vertex) stronger, moderately deep, pronotum slightly less strong and more dense, elytra even finer and denser, on abdomen (Fig. 37) more indistinct; on tergite VII both coriaceous microsculpture and punctation fading posteriorly (as also on mostly unexposed tergite VIII), making tip of abdomen much shinier than rest. Pubescence on forebody rather depressed, short, fine and dense (on elytra the most dense), on abdomen somewhat less dense but short and extremely fine setae,



FIGS 9-13

(9-10) *Thinobius injae* sp. n.; head and pronotum (9), elytra (10). (11-12) *T. ootsukai* Naomi; head and pronotum (11), eye (12). (13) *T. shavrini* sp. n.; side of head. Scale bar = 0.05 mm for 12, 0.1 mm for 9-10, 13, 0.14 mm for 11.



FIGS 14-18

(14) *Thinobius shavrini* sp. n.; elytra. (15-16) *T. schillhammeri* sp. n.; head and pronotum (15), side of head (16). (17) *T. yabakeinis* Naomi; head and pronotum. (18) *T. paraminor* sp. n.; side of head (11). Scale bar = 0.1 mm for 16, 18, 0.2 mm for 15, 0.25 mm for 14, 17.

apices of tergites with a row of conspicuously long setae, abdominal sides and apex with a few darker and stronger bristles. Strong dark bristle on outer side of supra-antennal prominence at anterior border of eye and on posterior edge of vertex adjacent to temples, similar ones right behind anterior pronotal corner and on side at 3/5 length. Setation on head medially directed except distinctly posterior on anterior part of vertex (a bristle on each side). Pronotal setation mostly antero-medially directed, but near posterior and side edges and at midline direction more anterior. Posterior edge of vertex as well as middle of anterior pronotal edge with rather large setae. Elytra and abdomen with posteriorly directed setae. Antennae, legs and mouthparts with very short, not conspicuous setation, except for the stiff, darker bristle around middle of each tibia and ones near apices of femora. Sides of elytra with three such stiff but inconspicuous setae distributed on side, the middle one shifted towards apex from middle.

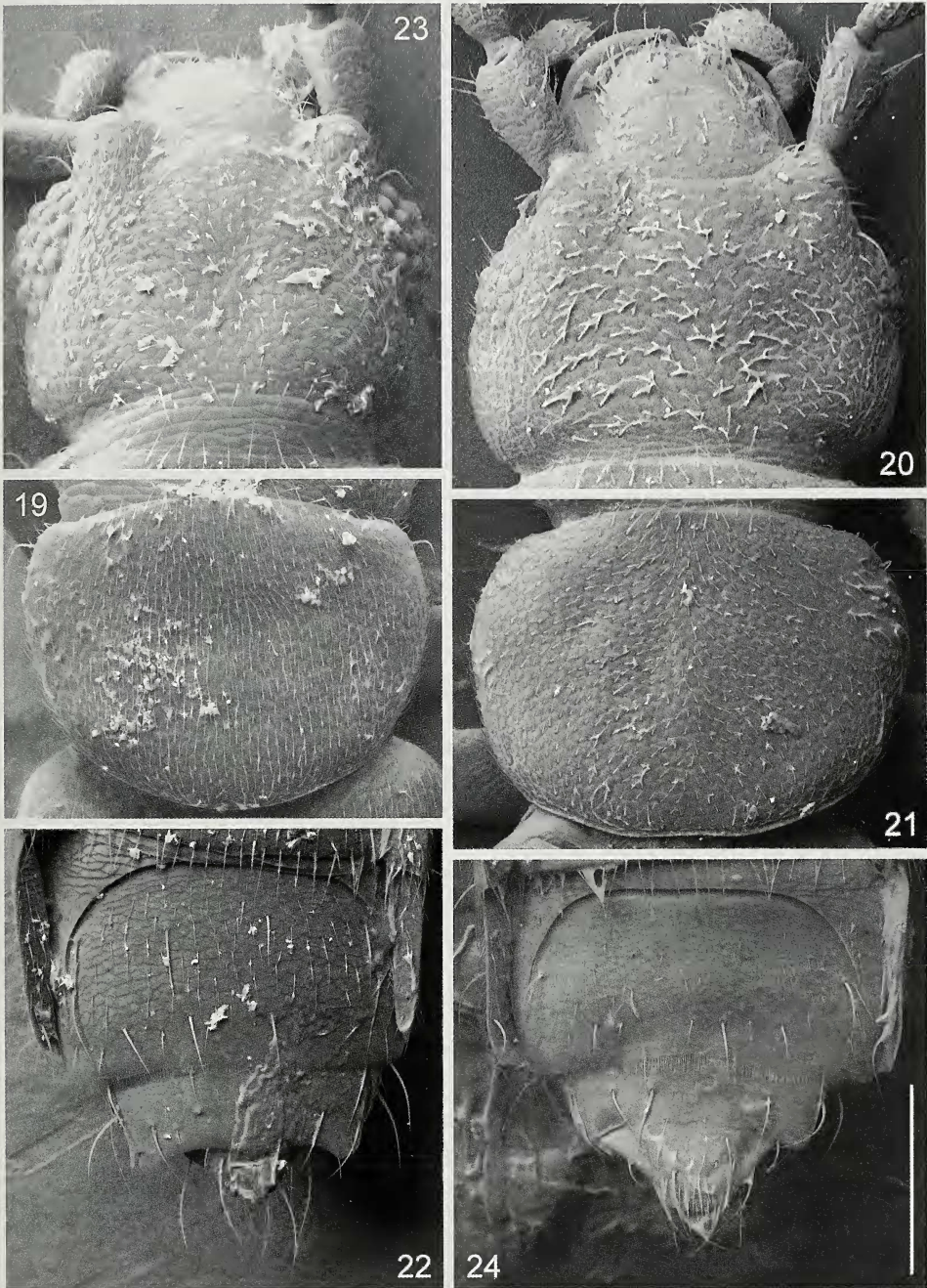
Head (Fig. 11) 1.40x wider than long, temples shorter than eyes (Fig. 12), gently curved anteriorly, narrowly rounded posteriorly. Middle of vertex with slight impression, supraantennal tubercles moderately developed. Anterior border of neck not marked with groove, only by change of microsculpture. Frontoclypeal suture appearing as fine, often shinier groove and darker line connecting supraantennal tubercles. ANTENNAE moderately elongate (Fig. 39), antennomeres 4 and 6 smaller than adjacent ones and as long as broad, other antennomeres slightly elongate.

Pronotum transverse, 1.40x wider than long, significantly wider than head, anterior margin almost straight, anterior corners noticeable but obtuse-angled, sides strongly arched, forming a rather unbroken arch with posterior margin, posterior angles barely marked. Pronotal midline slightly elevated, rest of middle of disc gently impressed. Pronotal marginal bead visible on posterior margin. Scutellum large, setose and dull. ELYTRA (Fig. 38) long, one elytron slightly more than twice as long as broad, gently curved in cross-section and parallel-sided (very little dilation posteriorly). Shoulders moderately developed. Along suture only with traces of marginal bead, mostly at broadly rounded sutural corners. LEGS of medium length, tarsal lobes thin but relatively long (not reaching apex of last tarsomere), tibiae slightly fusiform, appear much wider in middle than at ends.

Abdomen very weakly fusiform, sides more or less straight and parallel; widest in the middle, with just about the same width as elytra at broadest point. Posterior margin of tergite VII with palisade fringe, strongly widening in middle.

PRIMARY AND SECONDARY SEXUAL FEATURES: Posterior corners of tergite VIII (similar in both sexes) gently protruding (Fig. 24), posterior edge otherwise straight. Male sternite VIII as in Fig. 64, tergite IX as in Fig. 65, sternite IX as in Fig. 66. Aedeagus as in Fig. 81.

REMARKS: The description also mentions one male paratype. As the holotype was received undissected, obviously the aedeagus drawing in the original description must be based on the paratype; its whereabouts are unknown. It was neither deposited with the holotype (CMIC) nor with the paratypes of *T. yabakeinis*, of which no previously dissected male specimen was included in the available set of paratypes (KUEC) although an aedeagus drawing appears among the illustrations in Naomi (1995).



FIGS 19-24

(19) *Thinobius paraminor* sp. n.; pronotum. (20-22) *T. shavrini* sp. n.; head (20), pronotum (21), abdominal tip, dorsal view (22). (23) *T. injae* sp. n.; head. (24) *T. ootsukai* Naomi; abdominal tip, dorsal view. Scale bar = 0.1 mm for 19, 23, 0.18 mm for 20-21, 24, 0.22 mm for 22.

DISTRIBUTION: The species is known only from Mt. Kiyosumi (Chiba prefecture) in Japan (Honshu).

BIONOMICS: Unknown.

Thinobius paraminor sp. nov.

Figs 2, 18-19, 25, 32, 53, 55-57, 78

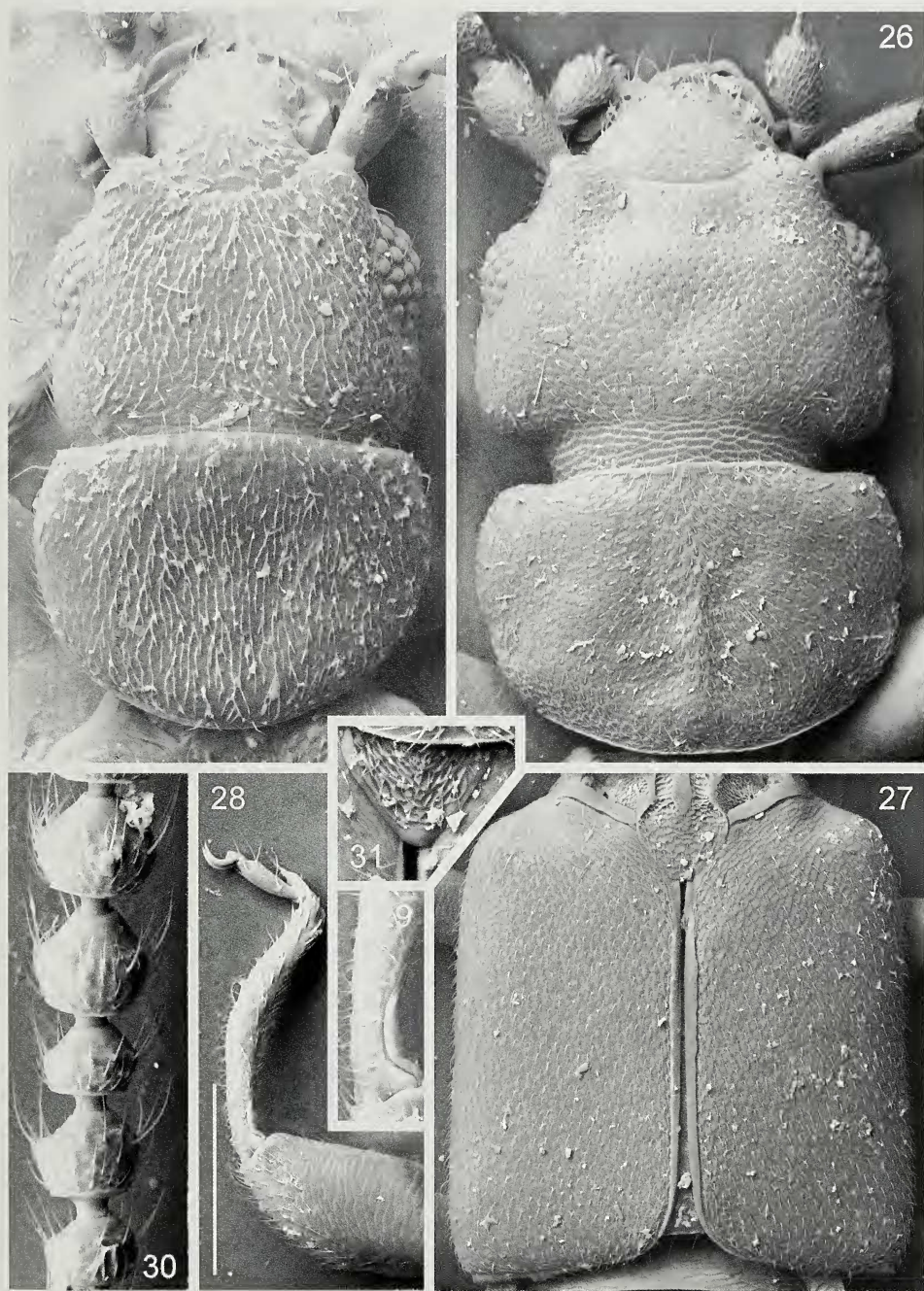
TYPE MATERIAL: HNHM, holotype (♂); "S-KOREA, Gangwon-do, Injae-gun district, 2 km E Inje, Naerincheon river, sand at W end of bridge, 200 m, gravel/sand border at water, flotation (2B), 38°03'59"N, 128°11'27"E; 08.IX.2010; [leg.] Makranczy & al."

PARATYPE: MHNG, 1 ♂, Same data as holotype.

DESCRIPTION: Habitus as in Fig. 20. Measurements (n=2): HW = 0.20 (0.195-0.20); TW = 0.20 (0.195-0.205); PW = 0.21 (0.21-0.215); SW = 0.22 (0.21-0.22); AW = 0.26 (0.25-0.26); HL = 0.19 (0.18-0.19); EL = 0.07 (0.07-0.07); TL = 0.06 (0.06-0.06); PL = 0.17 (0.16-0.17); SL = 0.30 (0.29-0.305); SC = 0.27 (0.265-0.27); FB = 0.64 (0.63-0.64); BL = 1.22 (1.21-1.23) mm. BODY very slightly bicoloured. Head and pronotum reddish medium to dark brown, abdomen dark brown, apically more blackish; elytra medium brown, slightly darker at shoulders and scutellum. Legs light brown, mouthparts and antennae medium brown, basal antennomeres slightly lighter. Fine and dense punctation of body parts intermixed with (and thereby obscured by) microsculpture, but still well observable on forebody, body appearing weakly lustrous. Coriaceous or at places rather imbricate microsculpture covering all body parts (strongest on abdomen), but neck conspicuously smooth and shiny, transversally sub-strigulate. Compared to preceding plates, tergite VII notably shinier towards apex, as also tergite VIII (but barely exposed). Pubescence on forebody fine, very short and depressed, dust-like; on abdomen medium dense short setae and on apical edges of tergites a row of conspicuously long setae. Abdominal sides and apex with a few darker, medium long, stronger bristles. Strong dark bristle on outer side of supra-antennal prominence at anterior border of eye and on posterior edge of vertex adjacent to temples, similar ones right behind anterior pronotal corner and on side at 3/5 length. Direction of setation on head and pronotum almost exclusively anterior, except posterior part of vertex where mixed. Elytra and abdomen with posteriorly directed setae. Antennae, legs and mouthparts with very short, not conspicuous setation, except for the stiff, darker bristle slightly distad from middle of each tibia and ones near apices of femora. Sides of elytra with three stiffer setae equally distributed on side (anterior one little behind shoulder, posterior little before outer corner).

Head (Fig. 25) 1.25x wider than long, temples (Fig. 18) usually straight, with a gentle curve (if any) anteriorly, rather broadly rounded posteriorly. Vertex rather flat, supraantennal prominences weakly developed. Anterior border of neck not marked with groove, only by change of microsculpture. Frontoclypeal suture appearing as fine, often shinier groove and dark line connecting supraantennal tubercles, similarly darker spots situated at both sides on middle of vertex. ANTENNAE with antennomeres 4 and 6 appearing smaller and much more transverse than adjacent (more or less as long as broad) ones (Fig. 53), articles 9-10 somewhat longer than broad.

Pronotum (Fig. 19) slightly transverse, 1.33x wider than long, just a little wider than head, anterior margin gently arched, with even a slight concavity before anterior corners, latter narrowly rounded. Sides and posterior margin form an almost perfect



FIGS 25-31

(25) *Thinobius paraminor* sp. n.; head and pronotum. (26-29) *T. zerchei* Gildenkov; head and pronotum, ♂ (26), elytra (27), proleg (28), base of tibia (29), antennomeres 4-8 (30). (31) *Thinobius injae* sp. n.; apex of scutellum. Scale bar = 0.075 mm for 31, 0.1 mm for 25, 29-30, 0.2 mm for 26-28.

arch of circle, posterior corners inconspicuous. pronotum with traces of impressions on middle of disc and around middle of sides. Pronotal marginal bead visible on posterior margin as a thin line. Scutellum large, setose and dull. ELYTRA (Fig. 32) long, one elytron more than twice as long as broad, gently curved in cross-section and parallel-sided (very little dilation posteriorly). Shoulders moderately developed. Along suture without marginal bead, sutural corners broadly rounded. LEGS of medium length, tarsal lobes thin and appear quite short, tibiae strongly fusiform, appear a lot wider in middle than at ends.

Abdomen very weakly fusiform, sides more or less straight and parallel; widest in the middle, very slightly less wide than elytra at broadest point. Posterior margin of tergite VII with thin palisade fringe.

PRIMARY AND SECONDARY SEXUAL FEATURES: Posterior corners of tergite VIII (similar in both sexes) gently protruding, posterior edge otherwise straight. Male sternite VIII as in Fig. 55, tergite IX as in Fig. 56, sternite IX as in Fig. 57. Aedeagus as in Fig. 78.

ETYMOLOGY: The specific epithet refers to the confusing external similarity to *Thinobius minor*.

REMARKS: This taxon before the dissection appeared remarkably similar to *T. minor* Mulsant & Rey, 1870. However, based on the genital structures, it is closest to *T. ligeris* Pyot, 1874.

DISTRIBUTION: The species is known only from the type locality (Figs 3-4).

BIONOMICS: Collected with *T. injae*, at a lower river, open, sunny gravelbank.

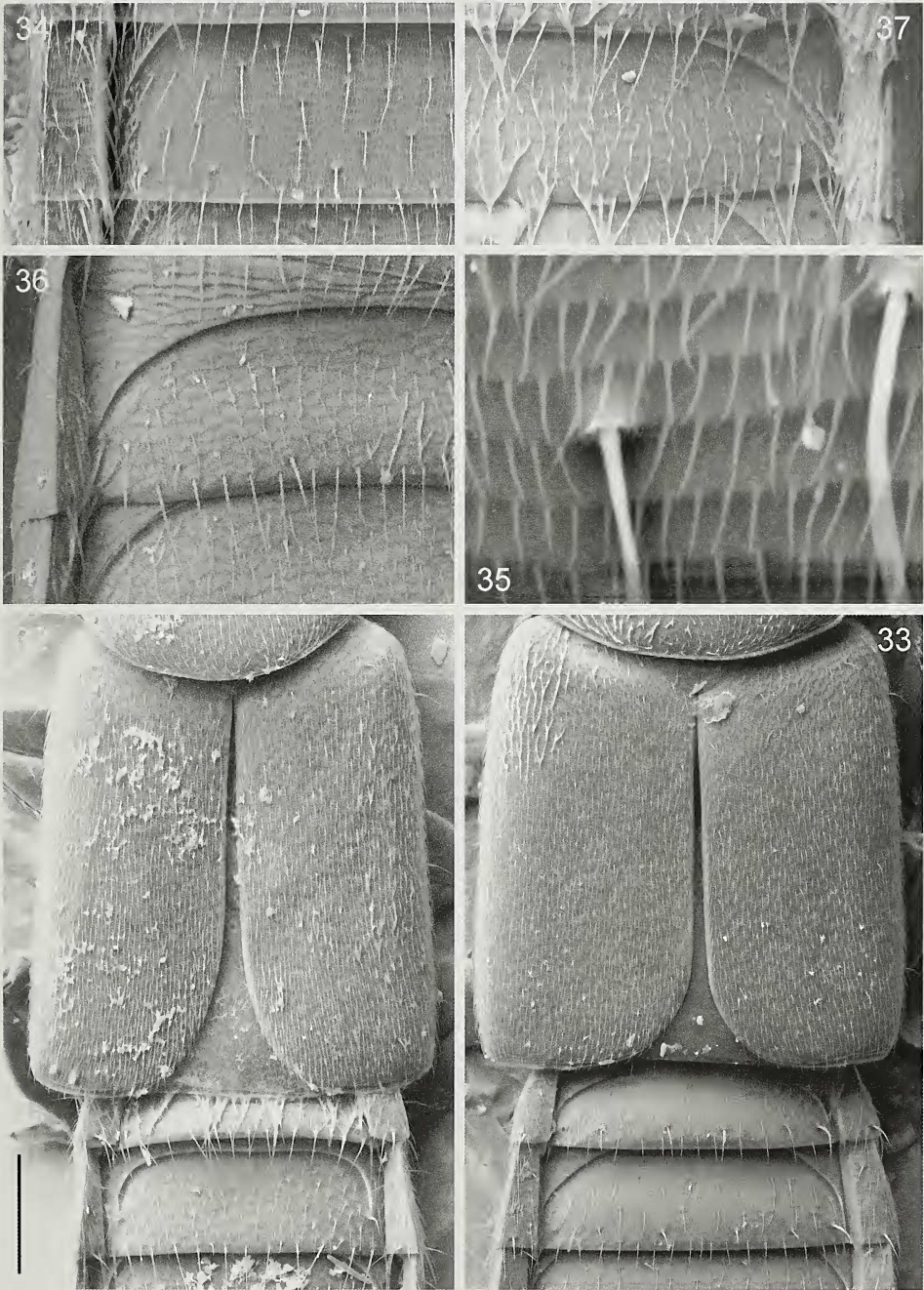
***Thinobius schillhammeri* sp. nov.**

Figs 5, 15-16, 33-35, 50, 58-60, 79

TYPE MATERIAL: HNHM, holotype (♂); "S-KOREA, Gangwon-do, Seorak-san, Osaek-Oncheon, N branch of Osaekcheon stream, stony bank, 370 m, rough sand partly under stones, flotation (4A), 38°04'48"N, 128°26'58"E; 09.IX.2010; [leg.] Makranczy & al."

PARATYPES (5): HNHM 1 ♀, 1, NIBR 1, NHMW 1, MHNG 1; same data as holotype.

DESCRIPTION: Habitus as in Fig. 5. Measurements (n=6): HW = 0.28 (0.26-0.29); TW = 0.28 (0.265-0.295); PW = 0.32 (0.305-0.325); SW = 0.33 (0.32-0.33); AW = 0.38 (0.36-0.40); HL = 0.22 (0.21-0.23); EL = 0.08 (0.08-0.085); TL = 0.08 (0.07-0.08); PL = 0.25 (0.24-0.255); SL = 0.39 (0.35-0.415); SC = 0.34 (0.33-0.355); FB = 0.86 (0.82-0.90); BL = 1.48 (1.35-1.55) mm. BODY slightly bicoloured. Head, pronotum and abdomen blackish dark brown with occasional reddish tint; elytra medium brown, but narrowly darker around scutellum. Mouthparts, antennae and legs medium to dark brown, tibiae and tarsi lighter, yellowish light brown. Forebody with microsculpture intermixed with fine and dense punctation, making it moderately lustrous; abdomen with microsculpture composed of transversal micro-ridges and microsetation (Figs. 34-35) resulting in a dull, iridescent appearance. Head and pronotum with coriaceous microsculpture and inconspicuous punctation. Elytra dominated by more imbricate microsculpture and only very obscured, dense and tiny punctures. Abdominal tergites with only traces of scattered punctation, rather shallow and indistinct; surface dominated by transversal substrigulate microsculpture. Tergite VIII rarely exposed but with smoother surface. Pubescence on head and pronotum fine, medium



FIGS 32-37

(32) *Thinobius paraminor* sp. n.; elytra and abdominal base. (33-35) *T. schillhammeri* sp. n.; elytra and abdominal base (33), left half of tergite IV (34), tergal microsculpture (35). (36) *T. shavrini* sp. n.; left half of tergite III. (37) *T. ootsukai* Naomi; right half of tergite IV. Scale bar = 0.007 mm for 35, 0.06 mm for 34, 0.07 mm for 37, 0.08 mm for 32, 36, 0.1 mm for 33.

short and depressed; elytra with extremely fine and short, more dense setae. Abdomen with short and very sparse setae, plus a row of conspicuously long setae on apical edges of tergites. Abdominal sides and apex with a few darker, not too long but stronger bristles. Strong dark bristle on outer side of supraantennal tubercle at anterior border of eye and on posterior edge of vertex adjacent to temples, similar ones right behind anterior pronotal corner and on side at $3/5$ length. Direction of setation on head and pronotum anterior in midlines plus posterior edge of pronotum, on discs antero-medial; anterior neck rather mixed. Elytra and abdomen with posteriorly directed setae. Antennae, legs and mouthparts with very short, not conspicuous setation, except for the stiff, darker bristle near middle of each tibia and ones near apices of femora. Sides of elytra with three stiffer (but inconspicuous) setae equally distributed on side, closer to each other (anterior one more behind shoulder, posterior more before outer corner) than usual.

Head (Fig. 15) 1.30x wider than long, temples (Fig. 16) usually straight or slightly narrowing, with a gently curve anteriorly, narrowly rounded posteriorly. Marked groove at inner edge of eye, continuing at side of a ridge at outer border of supraantennal prominence, latter with deep groove marking its inner border with clypeus; clypeus as strongly microsculptured as rest of head. Anterior border of neck marked with strong, curved groove. Frontoclypeal suture appearing as fine, shinier groove connecting supraantennal tubercles. ANTENNAE moderately elongate (Fig. 50), antennomeres 4-8 all slightly elongate, 9 and 10 significantly larger than preceding ones.

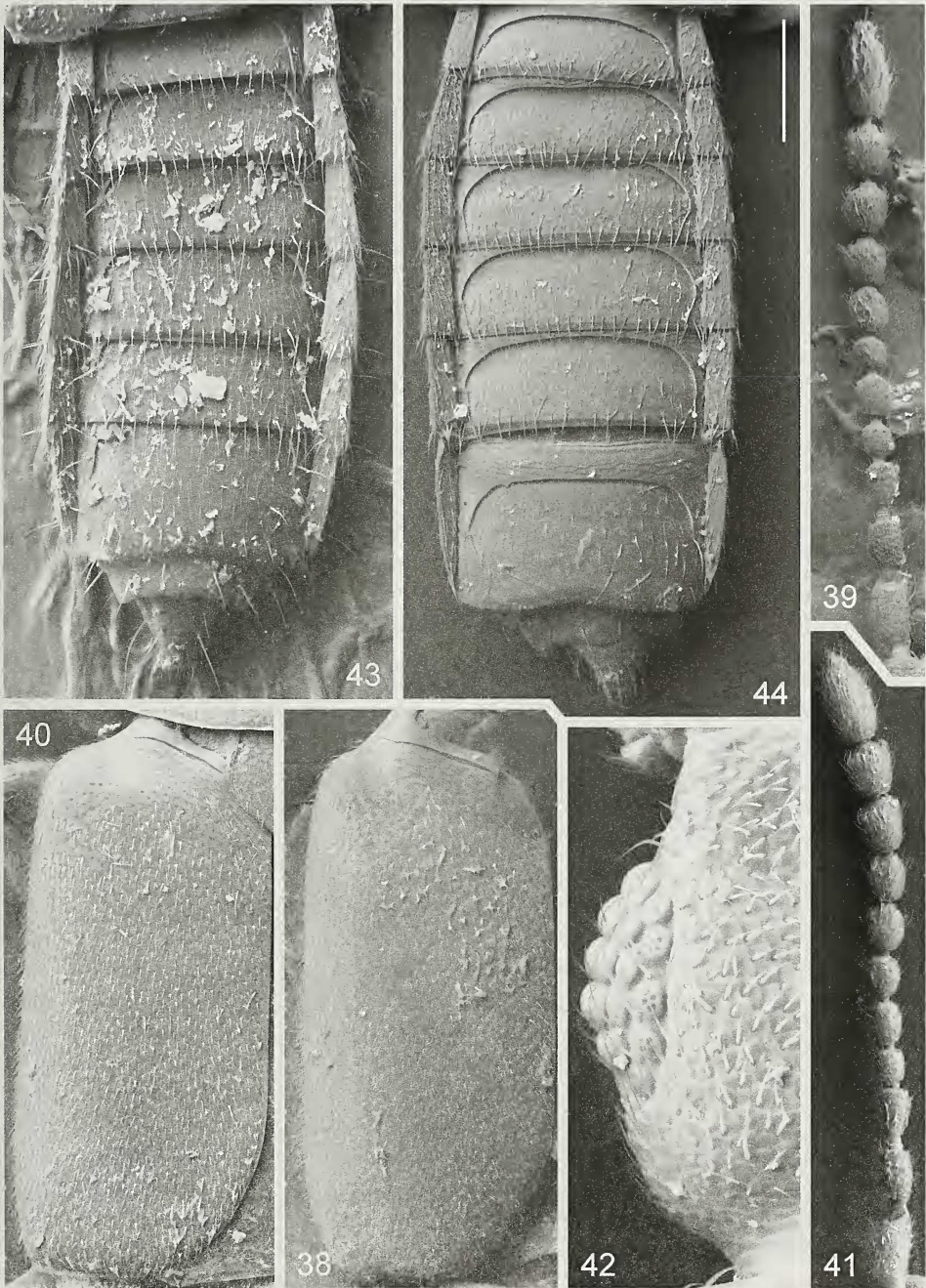
Pronotum slightly transverse, 1.30x wider than long, a little wider than head. Weakly arched sides plus anterior and posterior margins with narrowly rounded anterior and posterior corners giving pronotum a distinctly rectangular appearance. Pronotal disc inconspicuously impressed around middle of disc as well as slightly behind middle of sides; areas of posterior corners slightly elevated. Pronotal marginal bead visible on posterior and side margins. Scutellum large, setose and dull. ELYTRA (Fig. 33) moderately long, one elytron up to twice as long as broad, quite flat and parallel-sided (very little dilation posteriorly). Shoulders moderately developed. Along suture without marginal bead, sutural corners moderately broadly rounded. LEGS of medium length, tarsal lobes thin but relatively thin but long (sometimes reaching apex of last tarsomere), tibiae rather fusiform, appear much wider in middle than at ends.

Abdomen very weakly fusiform, sides more or less straight and parallel; widest in the middle, very slightly less wide than elytra at broadest point. Posterior margin of tergite VII with thin palisade fringe, posterior corners conspicuously broadly rounded.

PRIMARY AND SECONDARY SEXUAL FEATURES: Sexes not appearing different in regular dorsal view. Posterior corners of tergite VIII (similar in both sexes) gently protruding, posterior edge otherwise straight. Male sternite VIII as in Fig. 58, tergite IX as in Fig. 59, sternite IX as in Fig. 60. Aedeagus as in Fig. 79.

ETYMOLOGY: Named after Dr. Harald Schillhammer (Wien, Austria), who provides continuous help with colour habitus photography in a quality rarely seen for such tiny insects.

REMARKS: As for body size no sexual dimorphism was experienced with this species. A member of the *Thinobius linearis* group, it is the closest known relative of



FIGS 38-44

(38-39) *Thinobius ootsukai* Naemi; elytron (38), antenna (39). (40-42) *T. yabakeinis* Naemi; elytron (40), antenna (41), side of head (42). (43) *T. injae* sp. n.; abdomen, dorsal. (44) *T. zerchei* Gilddenkov; abdomen, dorsal. Scale bar = 0.06 mm for 42, 0.1 mm for 38, 0.13 mm for 40, 43, 0.16 mm for 39, 41, 0.2 mm for 44.

T. heterogaster Fauvel, 1889. This record broadens the known distribution range of the group. The new species is slightly larger than *T. heterogaster*, with stronger antennae. The most important diagnostic difference is the pronotal shape: *T. heterogaster* has conspicuous obtuse-angled posterior pronotal corners and almost straight pronotal sides and only a slight protuberance in near the posterior pronotal corners, while *T. schillhammeri* has a barely noticeably angled posterior pronotal corner, more curved sides and stonger protuberances near the posterior corners.

DISTRIBUTION: The species is known only from the type locality (Fig. 7).

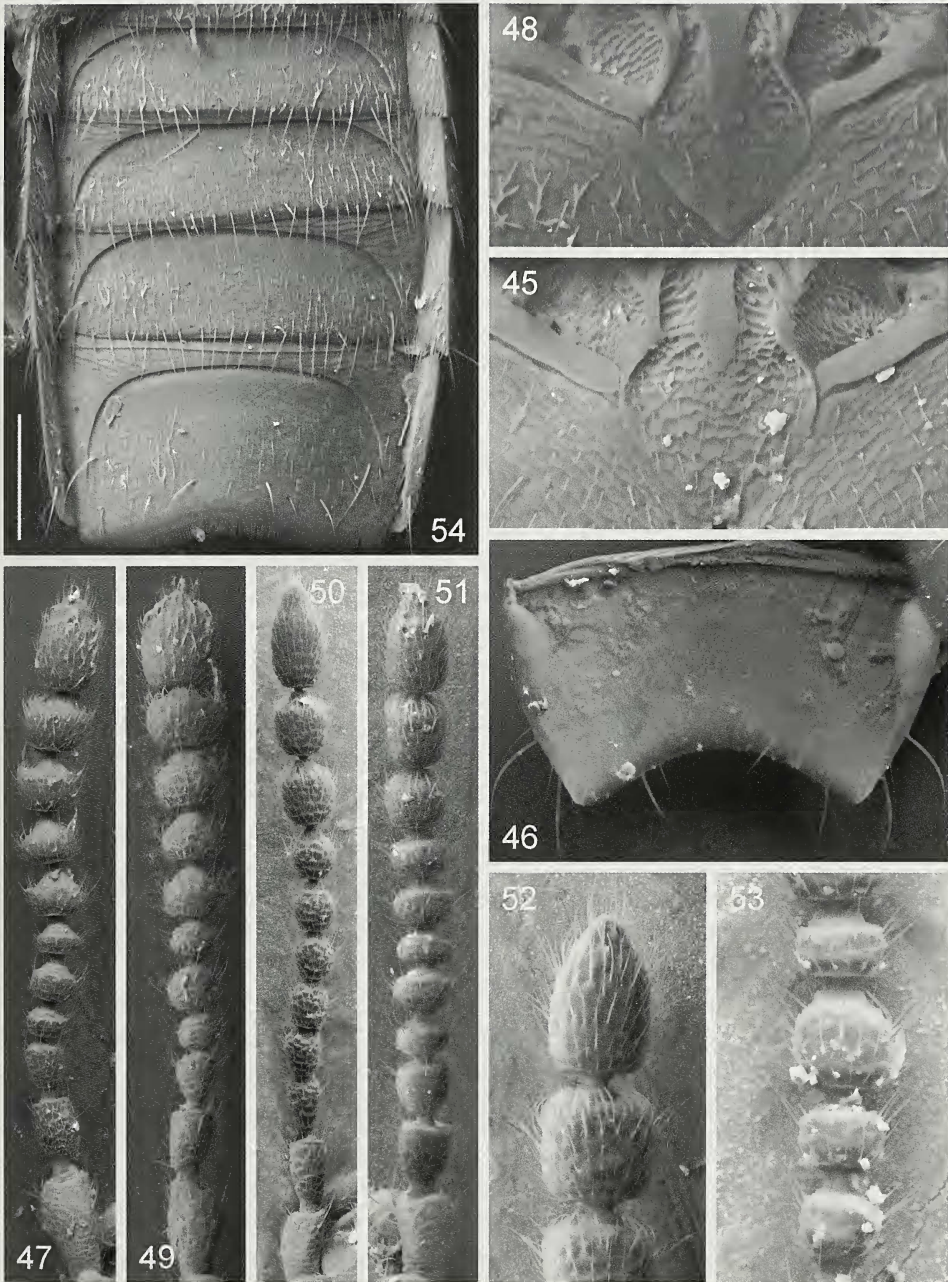
BIONOMICS: The type material was collected in sandy-gravelly spots between huge rocks or under stones at a fast-running mountain stream.

***Thinobius shavrini* sp. nov.** Figs 6, 13-14, 20-22, 36, 48-49, 61-63, 80, 84, 86

TYPE MATERIAL: CNCI, holotype (♂); "ALASKA, Alaska Range, Antimony Crk. [63°08'N, 149°22'W], 3500', 2.5mi E. mi. 181, G.[eorge] Parks Hwy.; 27.VI.[19]78; [leg.] [A.] Smetana & [E.C.] Becker".

PARATYPES (2): CNCI, 1 ♀; ALASKA, Alaska Range, Antimony Crk., 3500', 2.5mi E. mi. 181 Hwy. [Alaska Route] 3; 27.VI.[19]78; [leg.] [A.] Smetana & [E.C.] Becker. – MHNG, 1 ♀; RUSSIA, East Siberia, Chita Area, Kyrenskiy distr., Sokhondinskiy Nat. Res., up. Zolotoy stream (right trib. Agutsa r.), 49°45.353' N, 111°11.670' E, h=1580m; 25.07.2009; [leg.] A.V. Shavrin, I.V. Enushchenko, in mosses and litter near stream.

DESCRIPTION: Habitus as in Fig. 6. Measurements (n=3): HW = 0.37 (0.36-0.37); TW = 0.38 (0.37-0.38); PW = 0.42 (0.405-0.425); SW = 0.43 (0.42-0.44); AW = 0.51 (0.49-0.53); HL = 0.32 (0.32-0.33); EL = 0.08 (0.075-0.08); TL = 0.12 (0.115-0.12); PL = 0.32 (0.31-0.325); SL = 0.49 (0.48-0.51); SC = 0.45 (0.44-0.46); FB = 1.22 (1.21-1.23); BL = 2.51 (2.43-2.66) mm. BODY more or less unicoloured. Head, pronotum and abdomen reddish dark brown, elytra reddish medium brown. Legs, mouthparts and antennae reddish medium to light brown. All main body parts with coriaceous microsculpture intermixed with fine and dense punctation, making body moderately lustrous. Head with fine and dense punctation but on vertex with larger and deeper punctures, on larger interspaces microsculpture visible; pronotum and elytra with very fine and very dense punctation, microsculpture stronger (slightly imbricate) on elytra. Abdomen with transversal coriaceous microsculpture (Fig. 36) plus fine and dense punctation especially posteriorly, apex of tergite VII and the whole tergite VIII shiny (transversal coriaceous microsculpture), almost without punctures. Pubescence on forebody depressed, very fine, medium short; on abdomen fine and medium short setae plus a row of stronger and longer setae on apices of tergites (a few similar setae occasionally also on discs of tergites). Abdominal sides and apex with a few darker, longer and stronger bristles. Strong dark bristle on outer side of supraantennal prominence at anterior border of eye and on posterior edge of vertex adjacent to temples, similar ones right behind anterior pronotal corner and on side at 3/5 length. Direction of setation anterior on sides of head, medial on most of disc, postero-medial in midline; anterior on pronotal sides, posterior edge and midline, antero-medial on rest of disc. Stronger setae in middle of anterior pronotal edge. Elytra and abdomen with posteriorly directed setae. Antennae, legs and mouthparts with very short, not conspicuous setation, except for the stiff, darker bristle slightly distad from middle of each



FIGS 45-54

(45-47) *Thinobius zerchei* Gildenkov; scutellum (45), ♂ sternite VIII, dorsal view (46), antenna (47). (48-49) *T. shavrini* sp. n.; scutellum (48), antenna (49). (50) *T. schillhammeri* sp. n.; antenna. (51-52) *T. injae* sp. n.; antenna (51), antennomeres 10-11 (52). (53) *T. paraminor* sp. n.; antennomeres 3-6. (54) *T. yabakeinis* Naomi; tergites IV-VII. Scale bar = 0.035 mm for 53, 0.055 mm for 45, 53, 0.07 mm for 48, 51, 0.1 mm for 46, 0.12 mm for 50, 54, 0.14 mm for 47, 49.

tibia and ones near apices of femora. Sides of elytra with three stiffer setae on side but middle one slightly shifted posteriorly.

Head (Fig. 20) 1.18x wider than long, temples (Fig. 13) slightly widening anteriorly and are curved, narrowing and more narrowly rounded posteriorly. Anterior part of vertex slightly impressed on both sides near inner borders of supraantennal prominences. Anterior border of neck not marked with groove, only by change of microsculpture. Frontoclypeal suture appearing as fine, often shinier groove and darker line connecting supraantennal tubercles. ANTENNAE rather short (Fig. 49) with antennomeres 4 and 6 slightly transverse, 5, 7 and 8 conical apically.

Pronotum (Fig. 21) transverse, 1.40x wider than long, a little bit wider than head, anterior margin gently arched, anterior corners rather narrowly rounded, but more or less obtuse-angled. Sides more strongly arched in anterior half than posterior, posterior angles not too conspicuous, but sides not forming evenly arched line with posterior margin, latter straight or even minutely concave in the middle 1/5. Very gentle impressions on pronotal disc at both sides of midline but further away from it; anterior part of disc and middle of sides with similarly inconspicuous impressions. Pronotal marginal bead visible on posterior margin. Scutellum (Fig. 48) large, setose and dull. ELYTRA (Fig. 14) moderately long, one elytron up to twice as long as broad, quite flat and parallel-sided (very little dilation posteriorly). Shoulders weakly developed. Along suture with thin marginal bead. Sutural corners moderately broadly rounded. LEGS of medium length, tarsal lobes thin but relatively long (but not reaching apex of last tarsomere), tibiae rather fusiform, appear much wider in middle than at ends.

Abdomen very weakly fusiform, sides more or less straight and parallel; widest in the middle, at least as wide as elytra at broadest point. Posterior margin of tergite VII with palisade fringe, moderately broad but somewhat widening in middle.

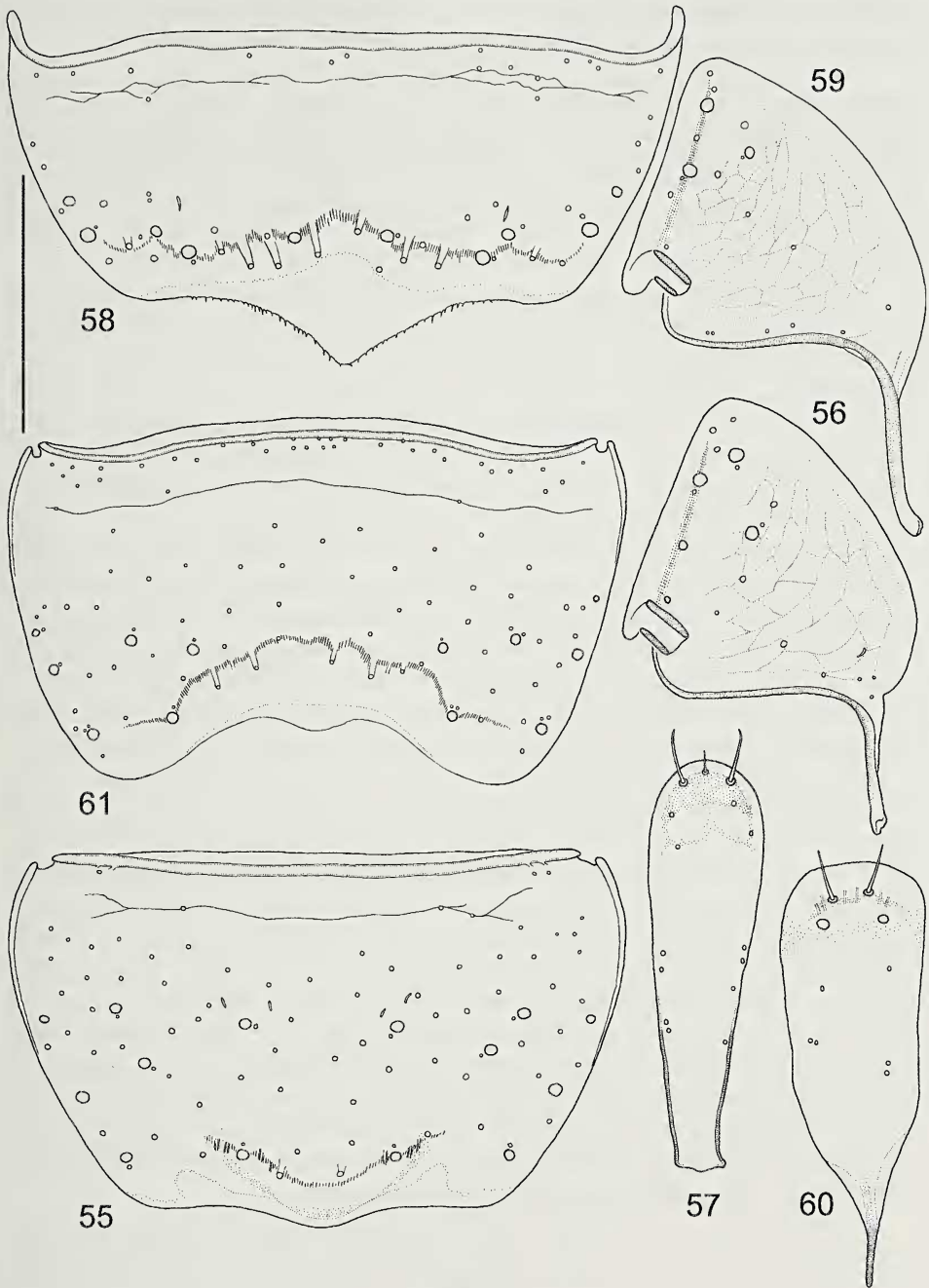
PRIMARY AND SECONDARY SEXUAL FEATURES: Sexes not appearing different in regular dorsal view. Posterior corners of tergite VIII (similar in both sexes) gently protruding (Fig. 22), posterior edge otherwise straight. Male sternite VIII as in Fig. 61, tergite IX as in Fig. 62, sternite IX as in Fig. 63. Aedeagus as in Fig. 80, female genital appendage as in Fig. 84, spermatheca as in Fig. 86.

ETYMOLOGY: The species is named after one of the collectors of the Siberian paratype, Alexey V. Shavrin (currently Daugavpils, Latvia) who contributed most interesting East Palaearctic material to several revisional projects of mine.

REMARKS: A species with rather small and flat eyes, transverse antennomeres and relatively short elytra.

DISTRIBUTION: Known from two distant localities (Alaska Range and Chita Area), but expected to have a distribution connecting these areas.

BIONOMICS: According to the collector of the holotype (Aleš Smetana) the collecting place was in a mountain valley with a fairly large, fast creek, where *Thinobius* was obtained from under small rocks along edges of the creek (low grassy vegetation and some moss), and by sifting wet moss and various debris at the same habitat. The Siberian paratype was collected from litter near gravel (Fig. 8) or from wet gravel together with specimens of *Ochtheophilus*, *Lobrathium*, *Stenus* etc.



FIGS 55-61

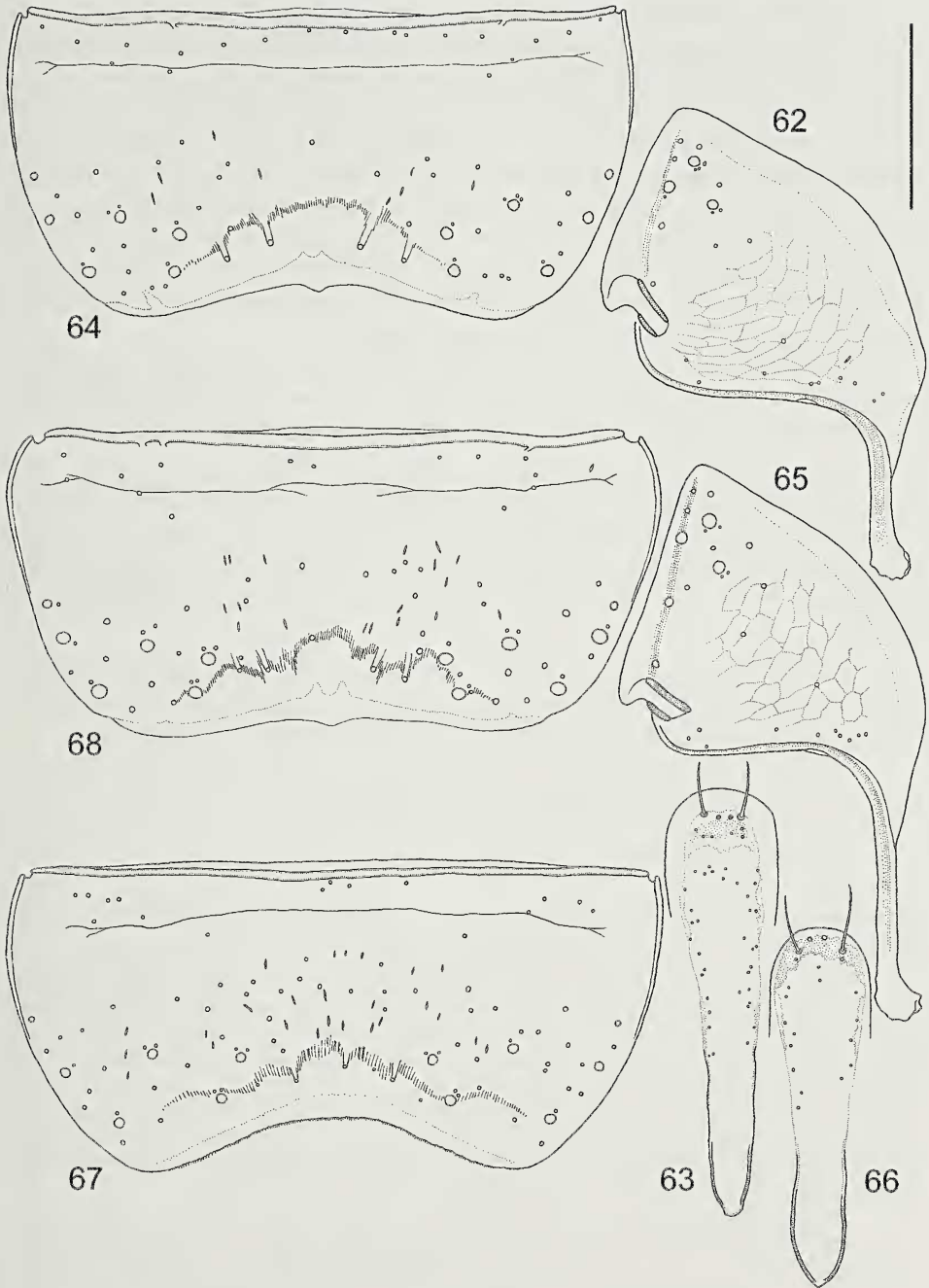
(55-57) *Thinobius paraminor* sp. n. ♂; sternite VIII (55), tergite IX (56), sternite IX (57).
 (58-60) *T. schillhameri* sp. n. ♂; sternite VIII (58), tergite IX (59), sternite IX (60). (61) *T. shavrinii* sp. n. ♂; sternite VIII. Scale bar = 0.07 mm for 60, 0.08 mm for 56-57, 0.1 mm for 55, 58-59, 0.2 mm for 61.

Thinobius yabakeinis Naomi, 1995 Figs 17, 40-42, 54, 68-70, 82, 85, 87
Thinobius (Platyderothinophilus) yabakeinis Naomi, 1995: 23. – Herman, 2001: 1758.

TYPE MATERIAL EXAMINED: CMIC, holotype (♂); “[JAPAN: Kyushu,] Chikushi; Yabakei; Fukuoka p[ref.]; 16.iii.1986; S. Nomura lg \ *Thinobius; yabakeinis; Naomi 1995* [reddish-orange label, without the word Holotype] \ CBM - ZI; 33877 \ Holotypus; *Thinobius; yabakeinis Naomi; ver. Makranczy, 2011 \ Thinobius; yabakeinis Naomi; det. Makranczy, 2011*”. – Paratypes (14); KUEC 1, KUEC 10, HNHM 1♂ 1♀, MHNG 1♂; same data as holotype, “[JAPAN: Shikoku,] Mt. Odami [33°32'N, 132°51'E, 950m]; Ehime-pref.; 11-13.vi.1981; S. Naomi leg. \ Paratype; *Thinobius; yabakeinis; Naomi 1995 \ Paratypus; Thinobius; yabakeinis Naomi; ver. Makranczy, 2012 \ Thinobius; yabakeinis Naomi; det. Makranczy, 2012*”.

REDESCRIPTION: Measurements (n=3♂) HW = 0.33 (0.33-0.34); TW = 0.32 (0.315-0.32); PW = 0.38 (0.375-0.385); SW = 0.44 (0.43-0.45); AW = 0.46 (0.43-0.48); HL = 0.28 (0.26-0.29); EL = 0.11 (0.105-0.11); TL = 0.08 (0.075-0.08); PL = 0.29 (0.28-0.29); SL = 0.55 (0.52-0.56); SC = 0.47 (0.46-0.48); FB = 1.12 (1.07-1.15); BL = 1.87 (1.76-1.95); (n=4♀) HW = 0.33 (0.32-0.34); TW = 0.31 (0.295-0.32); PW = 0.37 (0.355-0.38); SW = 0.43 (0.40-0.44); AW = 0.47 (0.45-0.48); HL = 0.27 (0.265-0.28); EL = 0.11 (0.10-0.11); TL = 0.08 (0.075-0.08); PL = 0.27 (0.26-0.295); SL = 0.51 (0.48-0.54); SC = 0.47 (0.44-0.49); FB = 1.07 (1.00-1.12); BL = 1.77 (1.67-1.87) mm. BODY more or less unicoloured. Head and pronotum reddish dark brown, abdomen blackish dark brown, elytra medium brown except darker area around scutellum, legs medium brown. Mouthparts and antennae reddish dark brown. All main body parts with microsculpture intermixed with very fine and very dense punctation, making body gently lustrous. Forebody with inconspicuous imbricate microsculpture; middle of vertex with larger punctures. Fine and scattered punctures posteriorly on tergites, microsculpture a mixture of imbricate and substrigose. Tergite VII apical edge shinier, as well as tergite VIII (partly unexposed). Pubescence on forebody depressed, very fine, medium short; on abdomen extremely fine and medium short setae plus a row of stronger and longer setae on apices of tergites. Abdominal sides and apex with a few darker, longer and stronger bristles. Strong dark bristle on outer side of supraantennal prominence at anterior border of eye and on posterior edge of vertex adjacent to temples, similar ones right behind anterior pronotal corner and on side at 3/5 length. Direction of setation posterior on anterior part of vertex (a bristle on each side), anterior on sides of head, medial or antero-medial on rest of vertex; anterior on pronotal sides, posterior edge and midline, antero-medial on rest of disc. Posterior edge of vertex as well as middle of anterior pronotal edge with rather large setae. Elytra and abdomen with posteriorly directed setae. Antennae, legs and mouthparts with very short, not conspicuous setation, except for the stiff, darker setae around middle of each tibia and ones near apices of femora. Sides of elytra with three rather inconspicuous stiffer setae on side, middle one slightly shifted posteriorly.

Head (Fig. 17) 1.40x wider than long, temples (Fig. 42) shorter than eyes, gently curved anteriorly, narrowly rounded posteriorly. Middle of vertex with slight impression, supraantennal tubercles moderately developed. Anterior border of neck not marked with groove, only by change of microsculpture. Frontoclypeal suture appearing as fine, often shinier groove and darker line connecting supraantennal tubercles. ANTENNAE moderately elongate (Fig. 41), antennomeres 4 and 6 somewhat shorter than adjacent ones, rest of antennomeres distinctly elongate.



FIGS 62-68

(62-63) *Thinobius shavrini* sp. n. ♂; tergite IX (62), sternite IX (63). (64-66) *T. ootsukai* Naomi ♂; sternite VIII (64), tergite IX (65), sternite IX (66). (67) *T. zerchei* Gildenkov ♂; sternite VIII. (68) *T. yabakeinis* Naomi ♂; sternite VIII. Scale bar = 0.1 mm for 64-65, 68, 0.12 mm for 66-67, 0.15 mm for 62-63.

Pronotum strongly transverse, 1.50x wider than long, just a little wider than head, anterior margin almost straight, anterior corners noticeable but obtuse-angled, sides strongly arched, and although posterior corners barely marked, posterior margin appears to be much more weakly arched. Pronotal midline slightly elevated, rest of middle of disc gently impressed. Pronotal marginal bead visible on posterior margin. Scutellum large, setose and dull. ELYTRA (Fig. 40) long, one elytron slightly more than twice as long as broad, gently curved in cross-section and parallel-sided (very little dilation posteriorly). Shoulders moderately developed. Along suture only with traces of marginal bead, mostly at broadly rounded sutural corners. LEGS of medium length, tarsal lobes thin but relatively long (not reaching apex of last tarsomere), tibiae slightly fusiform, appear much wider in middle than at ends.

Abdomen very weakly fusiform (Fig. 54), sides more or less straight and parallel; widest in the middle, very slightly less wide than elytra at broadest point. Posterior margin of tergite VII with palisade fringe, strongly widening in middle.

PRIMARY AND SECONDARY SEXUAL FEATURES: Sexes only appearing very slightly different (somewhat wider temples) in regular dorsal view. Posterior corners of tergite VIII (similar in both sexes) gently protruding, posterior edge otherwise straight. Male sternite VIII as in Fig. 68, tergite IX as in Fig. 69, sternite IX as in Fig. 70. Aedeagus as in Fig. 82, female genital appendage as in Fig. 85, spermatheca as in Fig. 87.

REMARKS: A very slight sexual dimorphism is experienced in the size, therefore measurements are made separate for males and females, respectively. One paratype of this species has turned out to be a *Hydrosmeeta* (Staphylinidae: Aleocharinae).

DISTRIBUTION: The species is known only from the material in the original description, from Shikoku and Kyushu islands of Japan).

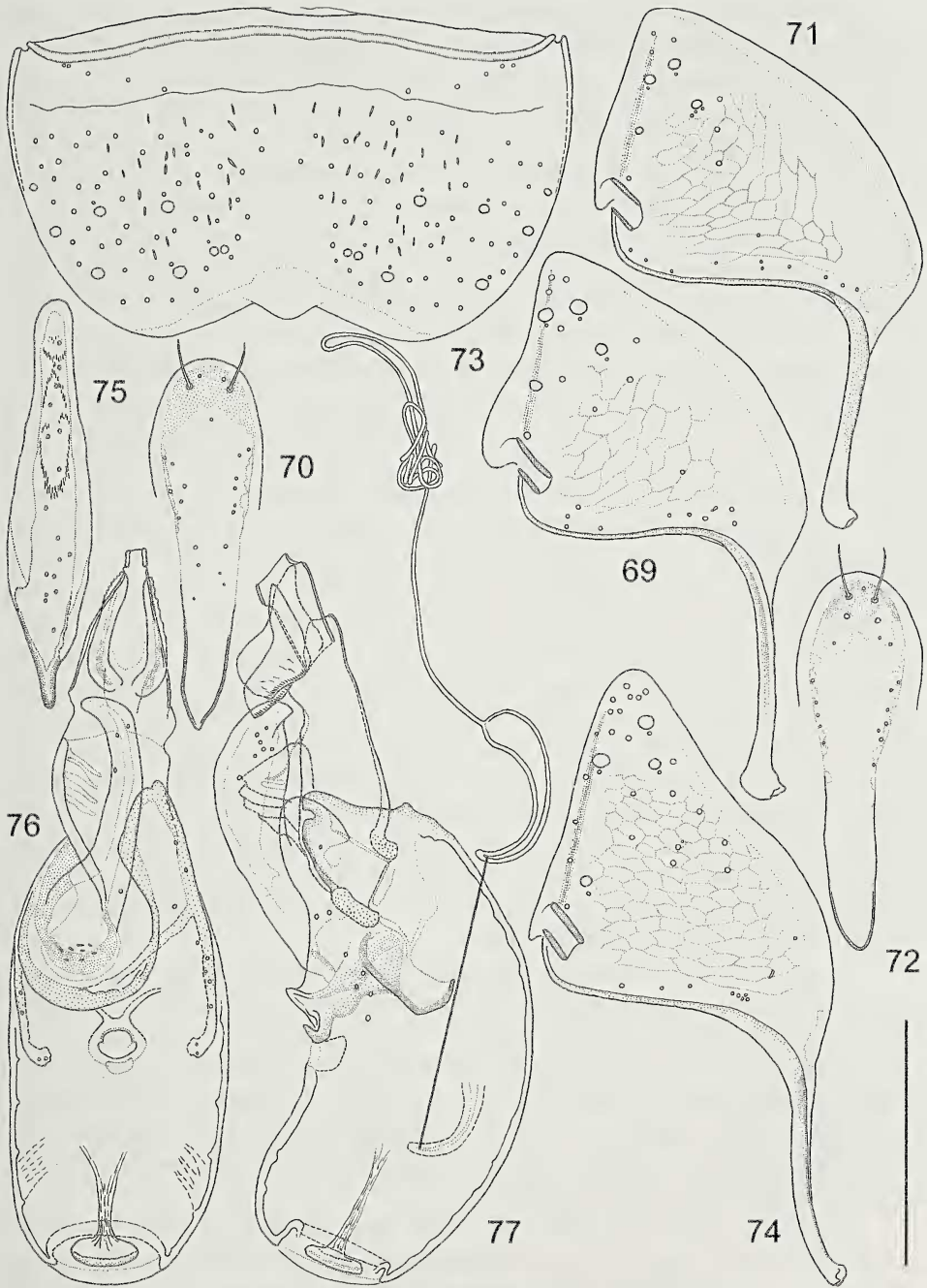
BIONOMICS: Unknown.

Thinobius zerchei Gilddenkov, 1998 Figs 26-29, 30, 44-47, 67, 71-72, 83

Thinobius (Platyderothinophilus) zerchei Gilddenkov, 1998: 175. – Herman, 2001: 1759.

TYPE MATERIAL EXAMINED: SDEI, holotype (♂); “♂ [on mounting card] \ Russia: Primorskiy kray; Sikhote-Alin, Biol. Stat.; 30km SE Chuguyevka; 44[°].05['] N 134[°].12['] E; 31.V.1993 650m; leg. L. Zerche \ Holotypus; *Thinobius; zerchei*; M. Gilddenkov 1996 \ DEI Müncheberg; Col-03055 \ Holotypus; *Thinobius; zerchei* Gilddenkov; ver. Makranczy, 2012 \ *Thinobius; zerchei* Gilddenkov; det. Makranczy, 2012”. – PARATYPE (1): SDEI, 1♀; “♀ [on mounting card] \ Russia: Primorskiy kray; Sikhote-Alin, Biol. Stat.; 30km SE Chuguyevka; 44[°].05['] N 134[°].12['] E; 01.VI.1993 650m; leg. L. Zerche \ Paratypus; *Thinobius; zerchei*; M. Gilddenkov 1996 \ DEI Müncheberg; Col-03056 \ Paratypus; *Thinobius; zerchei* Gilddenkov; ver. Makranczy, 2012 \ *Thinobius; zerchei* Gilddenkov; det. Makranczy, 2012”.

OTHER MATERIAL EXAMINED: coll. Shavrin 1♀, NHMW 1♂, MHNG 1♂ 1♀; RUSSIA, Приморский кр. [Primorskiy kray], Синий хр. [Siniy mountain range], 4 км В Евсеевки [4 km E Evseevka, 44°24'31"N, 132°57'22"E], 7-9.8.[19]99, [leg.] А. Шаврин [A. Shavrin]. – HNHM 1♂; RUSSIA, Приморский кр. [Primorskiy kray], пойма р. Пойма [floodplain of Poima River, 42°49'37"N, 131°21'46"E]; 30.07-6.08.[19]99; [leg.] А. Шаврин [A. Shavrin]. – coll. Schülke 3♀, HNHM 1♀; RUSSIA, Ussuriysky district, Suvorovka Fluss [43.6198° N, 132.5181° E], 100-150m; 02.VIII.1994; leg. B. Maier (110280), Kiesiges Ufer.



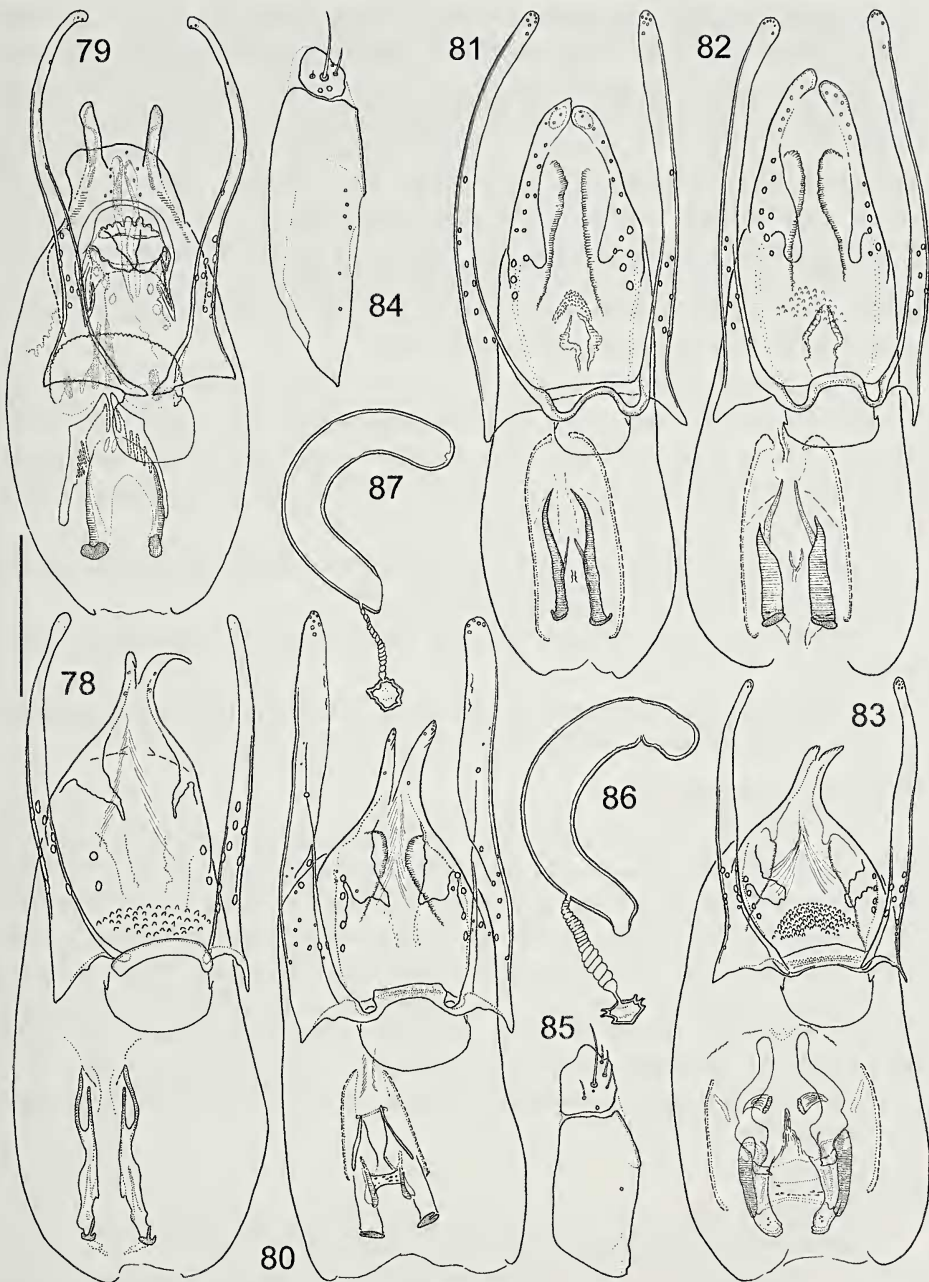
FIGS 69-77

(69-70) *Thinobius yabakeinis* Naomi ♂; tergite IX (69), sternite IX (70). (71-72) *T. zerchei* Gildenkov ♂; tergite IX (71), sternite IX (72). (73-77) *T. injae* sp. n. ♂; sternite VIII (73), tergite IX (74), sternite IX (75), aedeagus lateral (76), aedeagus frontal (77). Scale bar = 0.08 mm for 76-77, 0.1 mm for 74-75, 0.11 mm for 73, 0.13 mm for 69, 0.15 mm for 70-71, 0.18 mm for 72.

REDESCRIPTION: Measurements ($n=4\text{♂}$) HW = 0.39 (0.375-0.405); TW = 0.40 (0.38-0.415); PW = 0.41 (0.395-0.43); SW = 0.44 (0.43-0.44); AW = 0.48 (0.46-0.50); HL = 0.33 (0.315-0.35); EL = 0.10 (0.09-0.10); TL = 0.14 (0.135-0.15); PL = 0.30 (0.29-0.31); SL = 0.52 (0.51-0.52); SC = 0.46 (0.44-0.47); FB = 1.20 (1.16-1.26); BL = 2.36 (2.19-2.44); ($n=3\text{♀}$) HW = 0.35 (0.35-0.355); TW = 0.35 (0.345-0.35); PW = 0.36 (0.355-0.36); SW = 0.41 (0.40-0.41); AW = 0.46 (0.44-0.47); HL = 0.30 (0.295-0.30); EL = 0.10 (0.095-0.10); TL = 0.11 (0.105-0.12); PL = 0.28 (0.27-0.28); SL = 0.48 (0.47-0.49); SC = 0.43 (0.41-0.44); FB = 1.10 (1.09-1.10); BL = 2.07 (1.85-2.29) mm. BODY unicoloured. Head, pronotum and abdomen blackish dark brown with reddish tint, elytra somewhat lighter, reddish dark brown, occasionally darker around scutellum. Mouthparts and antennae slightly reddish dark brown, legs reddish medium brown. All main body parts with microsculpture intermixed with fine and dense punctation, making body moderately lustrous. On forebody fine coriaceous microsculpture, larger and deeper punctures on middle of vertex and anterior middle of pronotal disc. Abdominal tergites with extremely fine, scattered, indistinct punctation. Tergite VII with posteriorly fading (isodiametric) microsculpture, more lustrous, as well as tergite VIII (partly unexposed). Pubescence on forebody depressed, very fine, medium short; on abdomen fine and medium short setae plus a row of stronger and longer setae on apices of tergites (a few similar setae occasionally also on discs of tergites). Abdominal sides and apex with a few darker, somewhat longer and stronger bristles. Strong dark bristle on outer side of supraantennal prominence at anterior border of eye and one (from a small pit) on posterior edge of vertex adjacent to temples, similar ones right behind anterior pronotal corner and a longer one on side at 3/5 length. Direction of setation posterior on vertex, postero-lateral on supraantennal prominences, anterior on sides of head; medial or antero-medial on pronotal sides and disc except hind edge and midline where anterior. Elytra and abdomen with posteriorly directed setae. Elytra and abdomen with posteriorly directed setae. Antennae, legs and mouthparts with very short, not conspicuous setation, except for the stiff, darker bristle near the middle of each tibia and ones near apices of femora. Sides of elytra with three stiffer setae (rather inconspicuous) equally distributed on side.

Head (Fig. 26) 1.35x wider than long, temples usually broadening in males (temples broader than head width at eyes), more straight in females, only slightly curved anteriorly, narrowly rounded posteriorly. Anterior part of vertex rather conspicuously impressed on both sides near inner borders of supraantennal prominences. Anterior border of neck not marked with groove, only by change of microsculpture. Frontoclypeal suture appearing as fine, often shinier groove and darker line connecting supraantennal tubercles. ANTENNAE medium long (Fig. 47), 6th antennomere (Fig. 30) appearing smaller (less wide) than adjacent ones.

Pronotum transverse, 1.48x wider than long, as wide as (male) or wider (female) than head, anterior margin almost straight, anterior corners rather narrowly rounded (but obtuse), margin with rather marked concavities proximad (within these marginal bead apparent). Sides more strongly arched in anterior half than posterior, posterior angles inconspicuous, posterior halves of sides forming almost evenly arched line with posterior margin, latter almost straight in the middle 1/5. Pronotal midline rather noticeably elevated and disc impressed on both sides, area of inconspicuous



FIGS 78-87

(78-83) Aedeagi of *Thinobius* species. *T. paraminor* sp. n. (78), *T. schillhammeri* sp. n. (79), *T. shavrini* sp. n. (80), *T. ootsukai* Naomi (81), *T. yabakeinis* Naomi (82), *T. zerchei* Gildenkov (83). (84-85) Female genital appendages. *T. shavrini* sp. n. (84), *T. yabakeinis* Naomi (85). (86-87) Spermathecae. *T. shavrini* sp. n. (86), *T. yabakeinis* Naomi (87). Scale bar = 0.04 mm for 78, 0.06 mm for 79, 87, 0.07 mm for 81, 0.08 mm for 82, 86, 0.1 mm for 80, 83, 0.115 mm for 84-85.

posterior corners marked with a pair of slight elevations. Pronotal marginal bead visible on posterior margin and conspicuously in middle of anterior margin. Scutellum (Fig. 45) large, setose and dull. Elytra (Fig. 27) moderately long, one elytron about twice as long as broad, quite flat and parallel-sided (very little dilation posteriorly). Shoulders moderately developed. Along suture with rather broad marginal bead, but missing right behind scutellum. Sutural corners rather narrowly rounded. LEGS of medium length, tarsal lobes relatively thin but long (sometimes reaching apex of last tarsomere), tibiae slightly fusiform, appear much wider in middle than at ends.

Abdomen (Fig. 44) very weakly fusiform, sides more or less straight and parallel; widest in the middle, about as wide as elytra at broadest point. Posterior margin of tergite VII with rather thin palisade fringe.

PRIMARY AND SECONDARY SEXUAL FEATURES: Sexes appearing quite different in regular dorsal view: males with modified prolegs (Figs 28-29) and much wider temples. Posterior corners of tergite VIII (similar in both sexes) gently protruding, posterior edge otherwise straight. Male sternite VIII as in Figs 46, 67, tergite IX as in Fig. 71, sternite IX as in Fig. 72. Aedeagus as in Fig. 83.

REMARKS: As this species has a conspicuous sexual dimorphism, measurements are made separate for males and females, respectively.

DISTRIBUTION: This species is so far known from the Russian Far East, exclusively.

BIONOMICS: For one paratype "in forest litter, near river" is given as bionomical data; the other specimens are without such records on their labels.

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